

**To:** Brown, Anthony R (RM)[anthony.brown@bp.com]  
**Cc:** Halsey, Ronald H[ronald.halsey@bp.com]; Barton, Dana[Barton.Dana@epa.gov]  
**From:** Deschambault, Lynda  
**Sent:** Tue 4/18/2017 7:52:16 PM  
**Subject:** RE: Leviathan Weekly Update

Thanks for the revised updated summary we receive this morning. Much appreciated!

Per earlier emails items that remain outstanding;

- Supporting calculations for the total volume discharged. 200,000 gallons vs. 350,000 estimate range currently
- Review of why the discharge concentrations going in to Leviathan are approximately double what was in the pH 2.13 pond 4 2 water test results
- Suggested mitigation measures for the future.
- Anything else?

Best Regards,

Lynda Deschambault

Environmental Scientist

USEPA Region 09

(415) 947-4183

Please be advised I may have limited access to email , therefore please be patient with any communication delays.

**From:** Brown, Anthony R (RM) [mailto:anthony.brown@bp.com]  
**Sent:** Friday, April 14, 2017 11:58 AM  
**To:** Deschambault, Lynda <Deschambault.Lynda@epa.gov>  
**Cc:** Halsey, Ronald H <ronald.halsey@bp.com>  
**Subject:** RE: Leviathan Weekly Update

Hi Lynda – Here is the Weekly Update report including the revised Table 1, containing the additional monitoring results for the April 7, 2017 Pond 4 discharge sample, which Mike Johnson sent to you separately last night. We have not determined flow rates or discharge volumes from the Pond 4 overflow pipe. We don't have flow measurements, and we don't know when the pipe separation first occurred, how large the opening was, the level of water prior to the separation occurring, the rate of water flow into the pond, or the length, diameter and condition of the subsurface piping. We do know, again as confirmed from the EPA data sonde monitoring data, that pH did not change significantly in Leviathan Creek below the discharge between the time the Water Board first observed the separation on April 6 and when Atlantic Richfield completed the second round of repairs on the morning of April 11. We do not have any other information to provide at this time.

**From:** Deschambault, Lynda [mailto:Deschambault.Lynda@epa.gov]  
**Sent:** Friday, April 14, 2017 8:27 AM  
**To:** Brown, Anthony R (RM)  
**Cc:** tavassoli, lily; Wirtschafter, Joshua  
**Subject:** RE: Leviathan Weekly Update

Tony, my request was to have your One Complete Summary or incident report by EOD yesterday.

So that EPA can provide an update to the stakeholders today.

Could you please utilize whatever resources needed to complete the report EPA requested asap?

Lynda

**From:** Brown, Anthony R (RM) [<mailto:anthony.brown@bp.com>]  
**Sent:** Friday, April 14, 2017 6:41 AM  
**To:** Deschambault, Lynda <[Deschambault.Lynda@epa.gov](mailto:Deschambault.Lynda@epa.gov)>  
**Subject:** RE: Leviathan Weekly Update

Hi Lynda, Mike Johnson is out on leave today (Good Friday) and through the Easter holiday weekend (along with a bunch of others.) The note below will be relayed. As a reminder – we have the regularly scheduled monthly update call next week on Tuesday morning. Hope this helps... Tony...

**From:** Deschambault, Lynda [<mailto:Deschambault.Lynda@epa.gov>]  
**Sent:** Thursday, April 13, 2017 5:50 PM  
**To:** Carey, Douglas@Waterboards  
**Cc:** Greg Reller; Cory Koger; Wirschafter, Joshua; Brown, Anthony R (RM); Cohen, Adam; Johnson, Mike (COPPER ENVIRONMENTAL CONSULTING); Lombardi, Marc ([marc.lombardi@amecfw.com](mailto:marc.lombardi@amecfw.com)); Stetler, Chris@Waterboards; Ferguson, Scott@Waterboards; Tom Bloomfield ([tbloomfield@thegallaghergroup.com](mailto:tbloomfield@thegallaghergroup.com)) ([tbloomfield@thegallaghergroup.com](mailto:tbloomfield@thegallaghergroup.com)); Coupe, David@Waterboards; Kouyoumdjian, Patty@Waterboards  
**Subject:** RE: Leviathan Weekly Update

Thank you.

Tony/Mike, please incorporate these in to your revised weekly report with appropriate title.

As noted the text should Include approximate estimates of flow rates, and volumes.

Please include the before and after staff readings

Thank you.

**From:** Carey, Douglas@Waterboards [<mailto:douglas.carey@waterboards.ca.gov>]  
**Sent:** Thursday, April 13, 2017 3:34 PM  
**To:** Deschambault, Lynda <[Deschambault.Lynda@epa.gov](mailto:Deschambault.Lynda@epa.gov)>

**Cc:** Greg Reller <[gr@burlesonconsulting.com](mailto:gr@burlesonconsulting.com)>; Cory Koger <[Cory.S.Koger@usace.army.mil](mailto:Cory.S.Koger@usace.army.mil)>; Wirschafter, Joshua <[Wirschafter.Joshua@epa.gov](mailto:Wirschafter.Joshua@epa.gov)>; Brown, Anthony R (RM <[anthony.brown@bp.com](mailto:anthony.brown@bp.com)>; Cohen, Adam <[Adam.Cohen@dgsllaw.com](mailto:Adam.Cohen@dgsllaw.com)>; 'Mike Johnson' <[mike.johnson@copperenv.com](mailto:mike.johnson@copperenv.com)>; Lombardi, Marc ([marc.lombardi@amecfw.com](mailto:marc.lombardi@amecfw.com)) <[marc.lombardi@amecfw.com](mailto:marc.lombardi@amecfw.com)>; Stetler, Chris@Waterboards <[Chris.Stetler@waterboards.ca.gov](mailto:Chris.Stetler@waterboards.ca.gov)>; Ferguson, Scott@Waterboards <[scott.ferguson@waterboards.ca.gov](mailto:scott.ferguson@waterboards.ca.gov)>; Tom Bloomfield ([tbloomfield@thegallaghergroup.com](mailto:tbloomfield@thegallaghergroup.com)) <[tbloomfield@thegallaghergroup.com](mailto:tbloomfield@thegallaghergroup.com)>; Coupe, David@Waterboards <[David.Coupe@waterboards.ca.gov](mailto:David.Coupe@waterboards.ca.gov)>; Kouyoumdjian, Patty@Waterboards <[patty.kouyoumdjian@waterboards.ca.gov](mailto:patty.kouyoumdjian@waterboards.ca.gov)>  
**Subject:** RE: Leviathan Weekly Update

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Lynda,

As requested, attached are a few additional photos of the Pond 4 (near HDS) area taken by Water Board personnel between April 6 and April 11, 2017. The time and date stamp on the photos is helpful to follow the situation as originally observed on April 6 through the April 11, 2017 standpipe repair. I'll send photos in three parts as some firewalls are very restrictive.

Photo 170406 tz 013 is when the damaged standpipe in Pond 4 was first observed by Water Board personnel. Note approximate staff reading.

Photos 170407 tz 002, 003 and 005 are during initial repair activities.

Photo 170407 tz 046 is of failed initial repair.

Photo 170411 tz 015 is of final repair. Note staff reading.

Note: During the storm that passed through the area April 6 through April 9, 2017, approximately 2 to 3 inches of precipitation (liquid) fell on the site.

Douglas Carey, P.G.

Senior Engineering Geologist

Leviathan Mine

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